

Metal Industry Indicators

Composite Indexes of Leading and Coincident Indicators of Selected Metal Industries for July and August—Summary Report

September 16, 2011

The **primary metals leading index** declined 3.4% to 154.8 in August from a revised 160.3 in July, and its 6-month smoothed growth rate dropped to 0.6% from a revised 9.1% in July. The 6-month smoothed growth rate is a compound annual rate that measures the near-term trend. Usually a growth rate above +1.0% signals an increase in metals activity, and a growth rate below -1.0% indicates a downturn in activity. The leading index growth rate has generally declined since the beginning of the year and has fallen below the threshold that signals growth in the metals industry. Moreover, the decline was so steep that it came relatively close to the threshold that points to a downturn in metals industry activity. Although primary metals industry activity is still moderately healthy, fueled by the manufacturing sector's metals demand, the leading index growth rate is suggesting a slowdown in U.S. metals activity growth in the near term.

Three of the four indicators that were available for the August index calculation decreased, and one increased. A sharp drop in the stock price index combining construction and farm machinery companies and industrial machinery companies pulled the leading index down the most in August. It contributed -2.9 percentage points to the net decrease in the leading index. The USGS metals price index growth rate also fell in August, and contributed -0.8 percentage points to the leading index. The decrease in the PMI was not as severe; however, it is barely above the threshold that denotes an increase in manufacturing activity in the near future. Its contribution rounded to -0.1 percentage point. In contrast, the average workweek in primary metals establishments increased slightly in August and made the only positive contribution, 0.2 percentage points, to the leading index. The August leading index should be considered preliminary because only four of its eight indicators were available, and the leading index will likely be revised when the other components are added next month.

Metals are key inputs in durable goods manufacturing and construction, which account for almost a quarter of gross domestic product final sales. Therefore, the primary metals leading index also gives early signals of major changes in activity for the overall U.S. economy (Chart 8).

The steel leading index increased 1.2% in July, the latest month for which it is available. Movement among its nine indicators was mixed, but the soaring inflation-adjusted M2 money supply growth rate was the major strength in the leading index, particularly in June and July. New orders for iron and steel products from the transportation equipment manufacturing industry also buoyed the steel leading index. However, weakness in the PMI and shorter average weekly hours made sizable negative contributions. Although the steel leading index growth rate did not decline in July, it has trended lower since the start of the year and suggests slower growth for steel industry activity in the near term. The copper leading index declined 0.2% in July, and its

growth rate settled at 1.0%. Only two of its indicators declined, but the tumbling S&P stock price index for building products companies and the drop in the index for new housing permits issued outweighed gains in the other indicators. While the copper leading index growth rate remained in positive territory, it has declined 2 consecutive months and suggests that the recovery in the domestic copper industry could slow. Moreover, the strong Asian copper demand may not be enough to underpin the U.S. copper industry in the near future.

The **metals price leading index** decreased 0.9% to 108.1 in July, the latest month for which it is available, from a revised 109.1 in June. Its 6-month smoothed growth rate sank to -0.7% from a revised 1.1% in June. Three of its four indicators decreased, and the gain in the other indicator rounded to zero. The growth rate of the Organization for Economic Cooperation and Development (OECD) Total Leading Index sank deeper into negative territory in July, signaling further slowdowns in most industrialized countries. It made the largest negative contribution, -0.7 percentage points, to the net decrease in the leading index. Furthermore, the growth rate of the trade-weighted average exchange value of other major currencies against the U.S. dollar declined for a third consecutive month in July, contributing -0.1 percentage point to the metals price leading index. The growth rate of the inflation-adjusted value of new orders for U.S. nonferrous metal products contributed -0.1 percentage point. The increase in yield spread between the U.S. 10-year Treasury Note and the federal funds rate was so slight that its contribution rounded to zero. The metals price leading index signals major changes in the growth rate of nonferrous metal prices an average of 8 months in advance.

The growth rate of the inflation-adjusted value of U.S. nonferrous metal products inventories, which is an indicator of supply and usually moves inversely with the price of metals, decreased slightly in July. The negative metals price leading index growth rate suggests further metals price growth declines. Slow U.S. economic growth and economic turmoil in Europe have placed downward pressure on metals price growth, and it now appears that Asian metals demand is not enough to underpin metal prices in the immediate future.

The percent changes from June to July for the **metal industry coincident indexes**, which measure current economic activity, are shown below. July is the latest month for which these indexes are available.

Primary Metals	1.0%
Steel	-0.3%
Copper	1.9%

Tables 1, 3, 5, and 7 identify the indicators and, for the industry indexes, show the contributions of each indicator to its respective index.

The *Metal Industry Indicators* report is produced at the U.S. Geological Survey. For more information about these indexes and the *Metal Industry Indicators* monthly report, contact Gail James (703-648-4915), (e-mail, gjames@usgs.gov) at the U.S. Geological Survey.

The *Metal Industry Indicators* summary report with indexes for August and September is scheduled for release on the World Wide Web at 10:00 a.m. EDT, Friday, October 21, 2011.

Table 1.
Leading Index of Metal Prices and Growth Rates of the Nonferrous Metals Price Index,
Inventories of Nonferrous Metal Products, and Selected Metal Prices

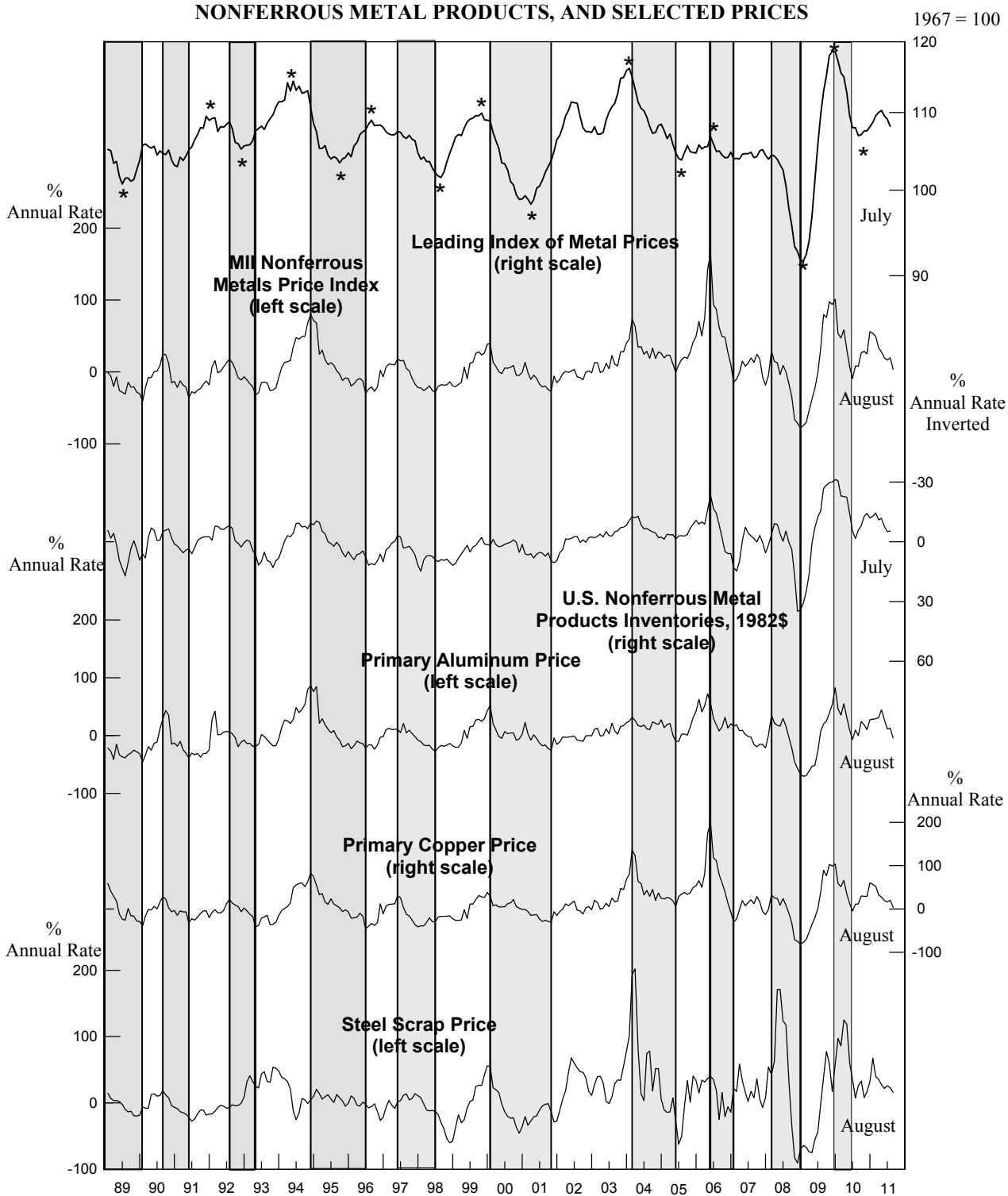
	Leading Index of Metal Prices (1967=100)	Six-Month Smoothed Growth Rates				
		MII Nonferrous Metals Price Index	U.S. Nonferrous Metal Products Inventories (1982\$)	Primary Aluminum	Primary Copper	Steel Scrap
2010						
July	108.0r	8.3r	-1.7	9.6	10.8	7.3
August	106.9r	8.0r	-5.8	-0.1	11.9	25.7
September	107.0r	26.6r	-8.1	24.0	29.8	32.6
October	107.5r	28.5r	-12.9	18.6	29.4	8.1
November	107.6r	24.9r	-14.2	10.1	29.1	16.8
December	108.1r	56.0r	-12.0	27.2	60.1	32.0
2011						
January	108.7r	53.6r	-12.9	28.4	57.0	67.3
February	109.6r	49.0r	-14.5	29.2	52.3	39.9
March	110.0	33.1	-11.0r	31.1	32.2	35.3
April	110.3r	27.7	-11.8r	44.7	27.6	27.7
May	109.5r	19.7r	-7.7	27.8	19.4	21.8
June	109.1r	16.5	-5.0r	11.1	16.3	25.8
July	108.1	19.4r	-5.4	12.7	20.3	22.8
August	NA	3.6	NA	-4.0	3.8	16.0

NA: Not available r: Revised

Note: The components of the Leading Index of Metal Prices are the spread between the U.S. 10-year Treasury Note and the federal funds rate, and the 6-month smoothed growth rates of the deflated value of new orders for nonferrous metal products, the Organization for Economic Cooperation and Development (OECD) Total Leading Index, and the reciprocal of the trade-weighted average exchange value of the U.S. dollar against other major currencies. The Metal Industry Indicators (MII) Nonferrous Metals Price Index measures changes in end-of-the-month prices for primary aluminum, copper, lead, and zinc traded on the London Metal Exchange (LME). The steel scrap price used is the price of No. 1 heavy melting. Inventories consist of the deflated value of finished goods, work in progress, and raw materials for U.S.-produced nonferrous metal products (NAICS 3313, 3314, & 335929). Six-month smoothed growth rates are based on the ratio of the current month's index or price to its average over the preceding 12 months, expressed at a compound annual rate.

Sources: U.S. Geological Survey (USGS); American Metal Market (AMM); the London Metal Exchange (LME); U.S. Census Bureau; the Organization for Economic Cooperation and Development (OECD); and Federal Reserve Board.

**CHART 1.
LEADING INDEX OF METAL PRICES AND GROWTH RATES
OF NONFERROUS METALS PRICE INDEX, INVENTORIES OF
NONFERROUS METAL PRODUCTS, AND SELECTED PRICES**



Shaded areas are downturns in the nonferrous metals price index growth rate. Asterisks (*) are peaks and troughs in the economic activity reflected by the leading index of metal prices. Scale for nonferrous metal products inventories is inverted.

Table 2.
The Primary Metals Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2010				
September	147.2	5.3	95.4	8.8
October	149.0	6.4	95.3	6.5
November	152.7	10.1	96.9	8.1
December	155.4	12.1	98.8	10.6
2011				
January	155.8	11.2	99.2	9.8
February	155.9r	9.9r	100.0	9.7
March	157.5r	10.6r	101.6	11.2
April	157.6r	9.4r	102.0r	10.5r
May	156.7r	7.1r	103.2r	11.3r
June	157.6r	7.1r	104.1r	11.8r
July	160.3r	9.1r	105.1	12.1
August	154.8	0.6	NA	NA

NA: Not available **r:** Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 3.
The Contribution of Each Primary Metals Index Component to the Percent Change in the Index from the Previous Month

Leading Index	July	August
1. Average weekly hours, primary metals (NAICS 331)	-0.3r	0.2
2. Weighted S&P stock price index, machinery, construction and farm and industrial (December 30, 1994 = 100)	0.3r	-2.9
3. Ratio of price to unit labor cost (NAICS 331)	0.2	NA
4. USGS metals price index growth rate	0.1r	-0.8
5. New orders, primary metal products, (NAICS 331 & 335929) 1982\$	0.5	NA
6. Index of new private housing units authorized by permit	-0.1	NA
7. Growth rate of U.S. M2 money supply, 2005\$	1.5	NA
8. PMI	-0.5r	-0.1
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	1.7r	-3.6
Coincident Index	June	July
1. Industrial production index, primary metals (NAICS 331)	0.0r	0.3
2. Total employee hours, primary metals (NAICS 331)	0.0r	0.0
3. Value of shipments, primary metals products, (NAICS 331 & 335929) 1982\$	0.8r	0.5
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.9r	1.0

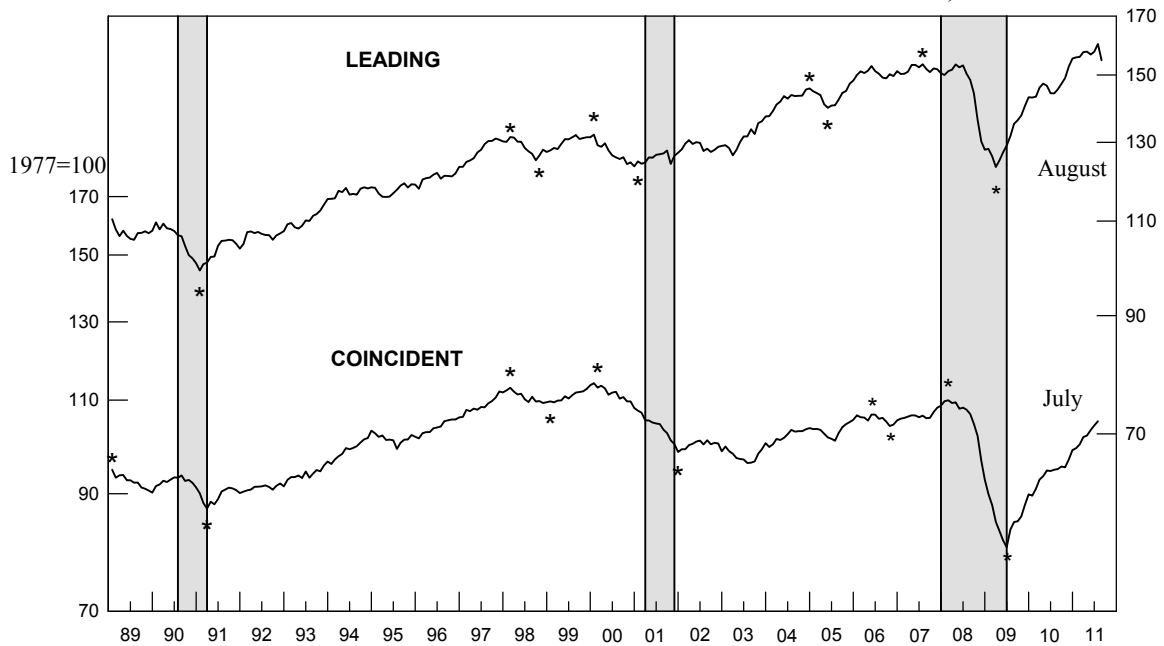
Sources: Leading: 1, Bureau of Labor Statistics; 2, Standard & Poor's and U.S. Geological Survey; 3, U.S. Geological Survey; 4, Journal of Commerce and U.S. Geological Survey; 5, U.S. Census Bureau and U.S. Geological Survey; 6, U.S. Census Bureau and U.S. Geological Survey; 7, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 8, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey. All series are seasonally adjusted, except 2, 3, and 4 of the leading index.

NA: Not available **r:** Revised

Note: A component's contribution, shown in Tables 3, 5, 7, and 9, measures its effect, in percentage points, on the percent change in the index. Each month, the sum of the contributions plus the trend adjustment equals (except for rounding differences) the index's percent change from the previous month.

CHART 2.

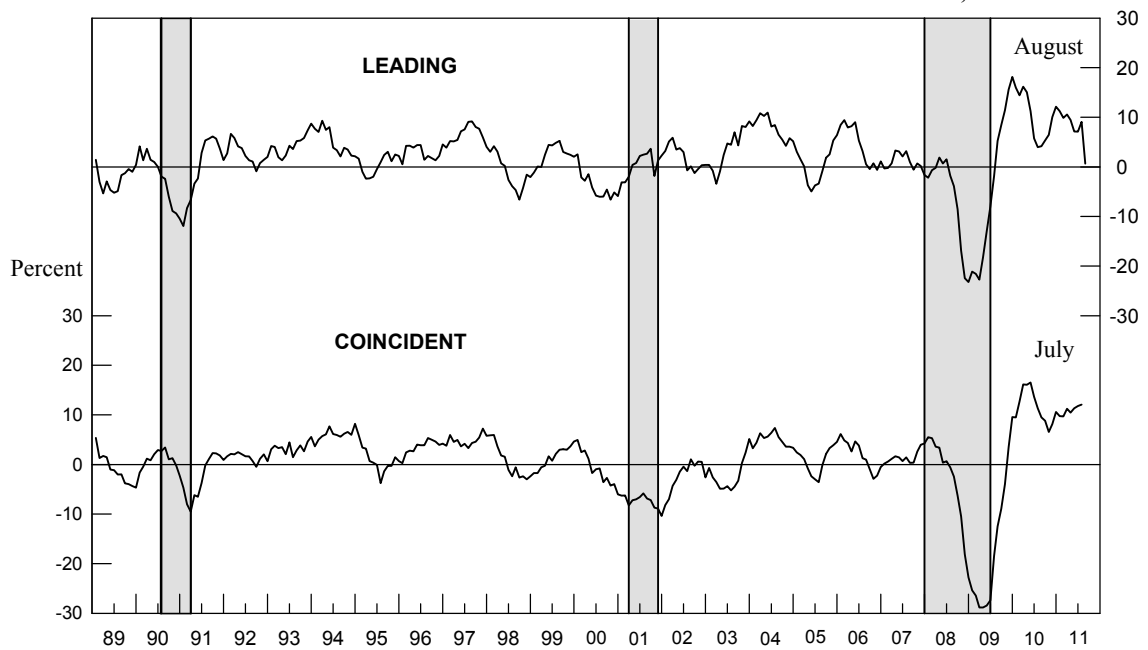
PRIMARY METALS: LEADING AND COINCIDENT INDEXES, 1989-2011 1977=100



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes.

CHART 3.

PRIMARY METALS: LEADING AND COINCIDENT GROWTH RATES, 1989-2011 Percent



Shaded areas are business cycle recessions.

The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.

Table 4.
The Steel Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2010				
August	106.2	-1.4	96.4	4.8
September	107.3	0.4	97.3	5.1
October	108.4	1.6	97.2	3.2
November	111.8	7.0	100.3	8.5
December	113.0	8.0	102.0	10.5
2011				
January	112.7	6.6	102.1	9.2
February	112.9r	6.2r	101.7	7.0
March	113.5r	6.4r	102.7	8.0r
April	112.9	4.8	102.8	7.2
May	111.5	2.3	103.0	6.6
June	111.7r	2.5r	103.4r	6.7r
July	113.0	4.0	103.1	5.1

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 5.
The Contribution of Each Steel Index Component to the Percent Change in the Index from the Previous Month

Leading Index	June	July
1. Average weekly hours, iron and steel mills (NAICS 3311 & 3312)	0.0	-0.9
2. New orders, iron and steel mills (NAICS 3311 & 3312), 1982\$	-0.3	0.7
3. Shipments of household appliances, 1982\$	-0.1	-0.1
4. S&P stock price index, steel companies	-0.3	0.2
5. Retail sales of U.S. passenger cars and light trucks (units)	0.0	0.3
6. Growth rate of the price of steel scrap (#1 heavy melting, \$/ton)	-0.1	0.1
7. Index of new private housing units authorized by permit	0.1	-0.1
8. Growth rate of U.S. M2 money supply, 2005\$	0.9	1.5
9. PMI	0.2	-0.5
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	0.4	1.2
Coincident Index		
1. Industrial production index, iron and steel products (NAICS 3311 & 3312)	0.1r	0.2
2. Value of shipments, iron and steel mills (NAICS 3311 & 3312), 1982\$	0.2	0.2
3. Total employee hours, iron and steel mills (NAICS 3311 & 3312)	0.1	0.1
Trend adjustment	0.1	-0.8
Percent change (except for rounding differences)	0.5	-0.3

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey; 4, Standard & Poor's; 5, U.S. Bureau of Economic Analysis and American Automobile Manufacturers Association; 6, Journal of Commerce and U.S. Geological Survey; 7, U.S. Census Bureau and U.S. Geological Survey; 8, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 9, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Bureau of Labor Statistics and U.S. Geological Survey. All series are seasonally adjusted, except 4 and 6 of the leading index.

r: Revised

CHART 4.
STEEL: LEADING AND COINCIDENT INDEXES, 1989-2011

1977=100

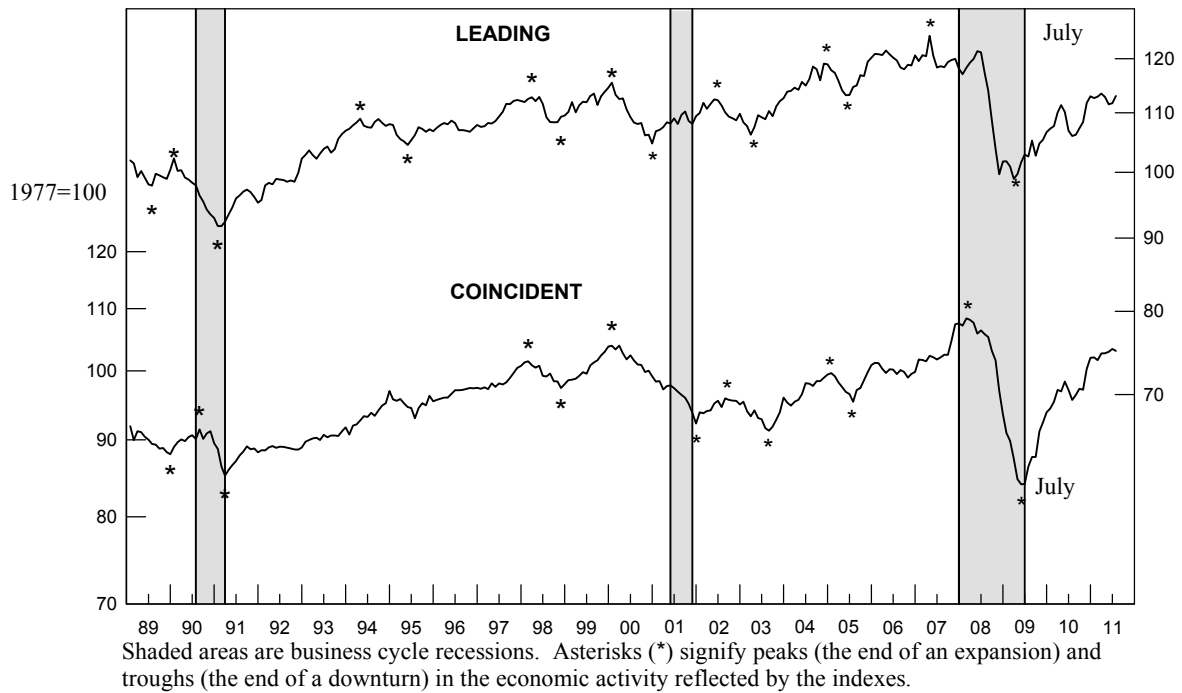


CHART 5.
STEEL: LEADING AND COINCIDENT GROWTH RATES, 1989-2011

Percent

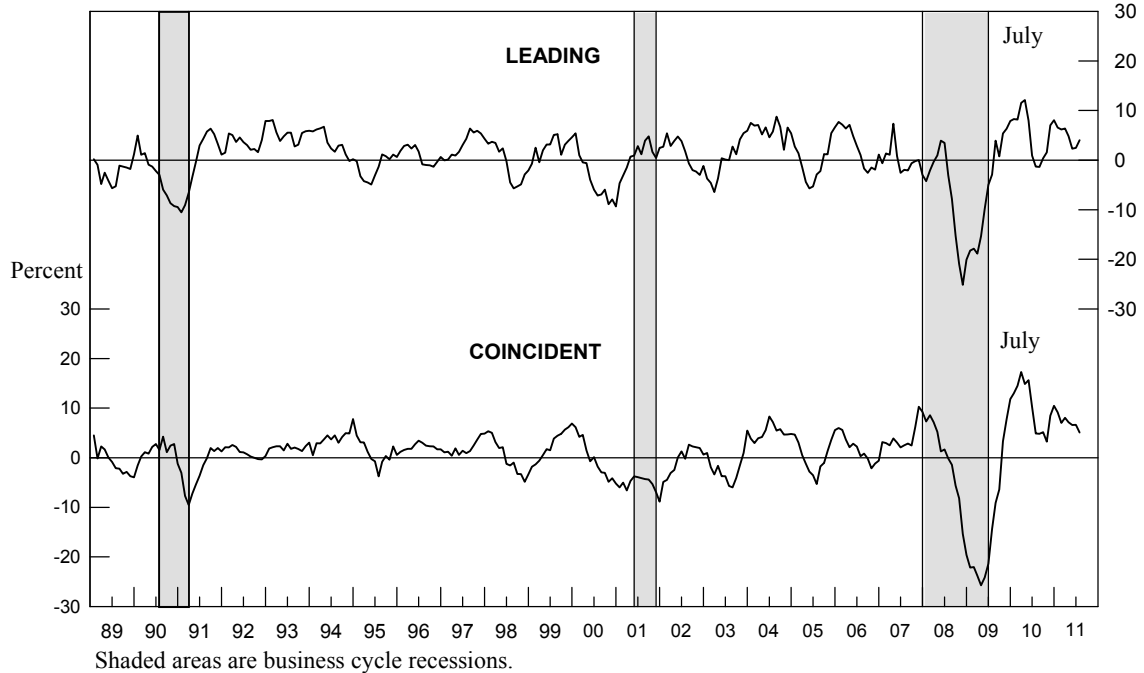


Table 6.
The Copper Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2010				
August	117.8	-1.9	100.4	10.6
September	117.6	-2.4	97.5	3.4
October	119.0	-0.6	99.7	6.8
November	118.9	-1.3	100.0	5.9
December	121.2	2.6	98.8	3.2
2011				
January	118.7	-1.2	98.1	1.1
February	119.8	0.6	100.0	4.1
March	120.4	1.4	100.7	4.4
April	121.0r	2.6r	101.8r	5.7r
May	121.0	2.8	103.6r	8.5r
June	120.3	1.7r	103.9r	7.7r
July	120.0	1.0	105.9	10.6

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 7.
The Contribution of Each Copper Index Component to the Percent Change in the Index from the Previous Month

Leading Index	June	July
1. Average weekly hours, nonferrous metals except aluminum (NAICS 3314)	-0.5	0.1
2. New orders, nonferrous metal products, (NAICS 3313, 3314, & 335929) 1982\$	0.5	0.1
3. S&P stock price index, building products companies	-0.7	-0.5
4. LME spot price of primary copper	0.0	0.2
5. Index of new private housing units authorized by permit	0.1	-0.2
6. Spread between the U.S. 10-year Treasury Note and the federal funds rate	-0.1	0.0
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	-0.7	-0.3
Coincident Index		
1. Industrial production index, primary smelting and refining of copper (NAICS 331411)	0.0r	0.1
2. Total employee hours, nonferrous metals except aluminum (NAICS 3314)	0.1	1.8
3. Copper refiners' shipments (short tons)	NA	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.2r	2.0

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Standard & Poor's; 4, London Metal Exchange; 5, U.S. Census Bureau and U.S. Geological Survey; 6, Federal Reserve Board and U.S. Geological Survey. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics; 3, American Bureau of Metal Statistics, Inc. and U.S. Geological Survey. All series are seasonally adjusted, except 3, 4, and 6 of the leading index.

r: Revised NA: Not available

CHART 6.
COPPER: LEADING AND COINCIDENT INDEXES, 1989-2011

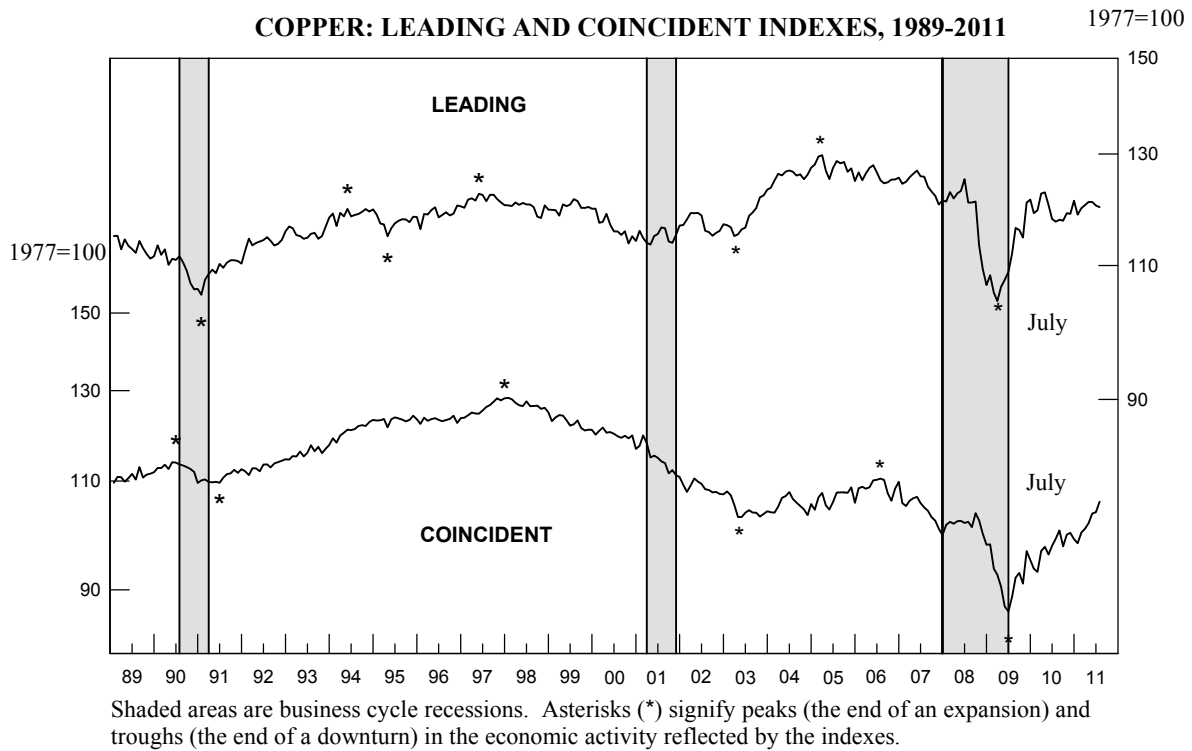


CHART 7.
COPPER: LEADING AND COINCIDENT GROWTH RATES, 1989-2011

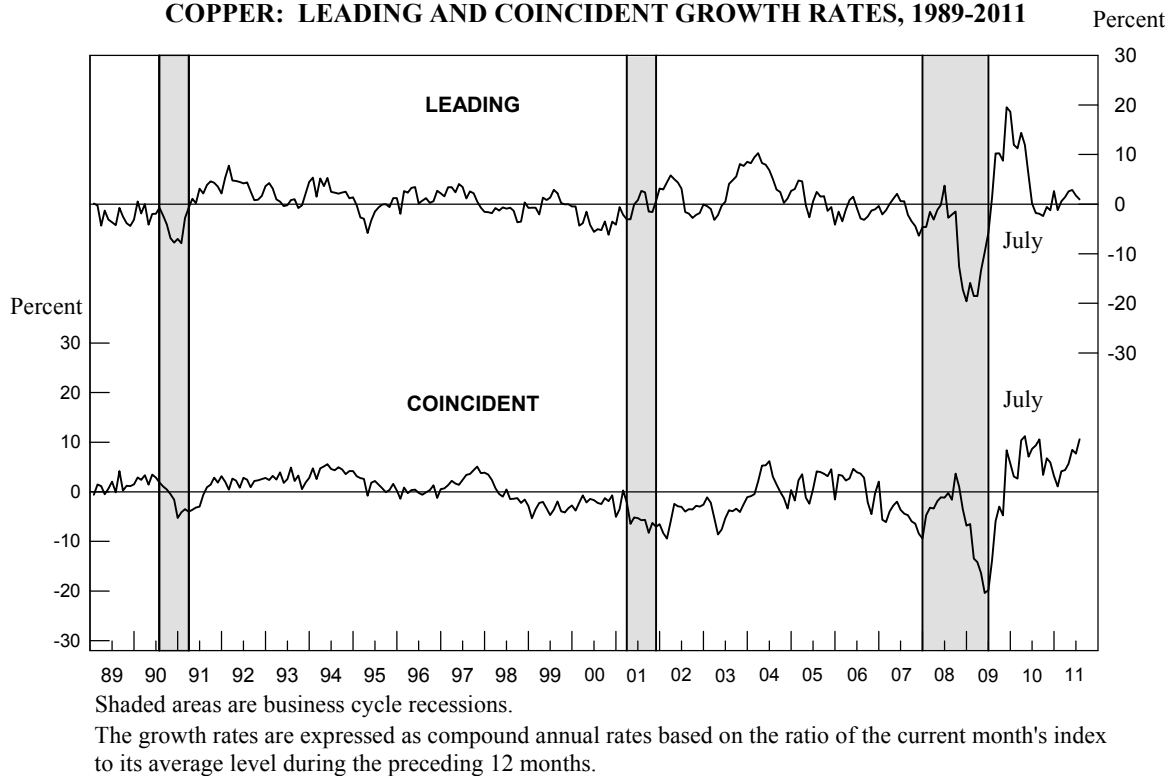
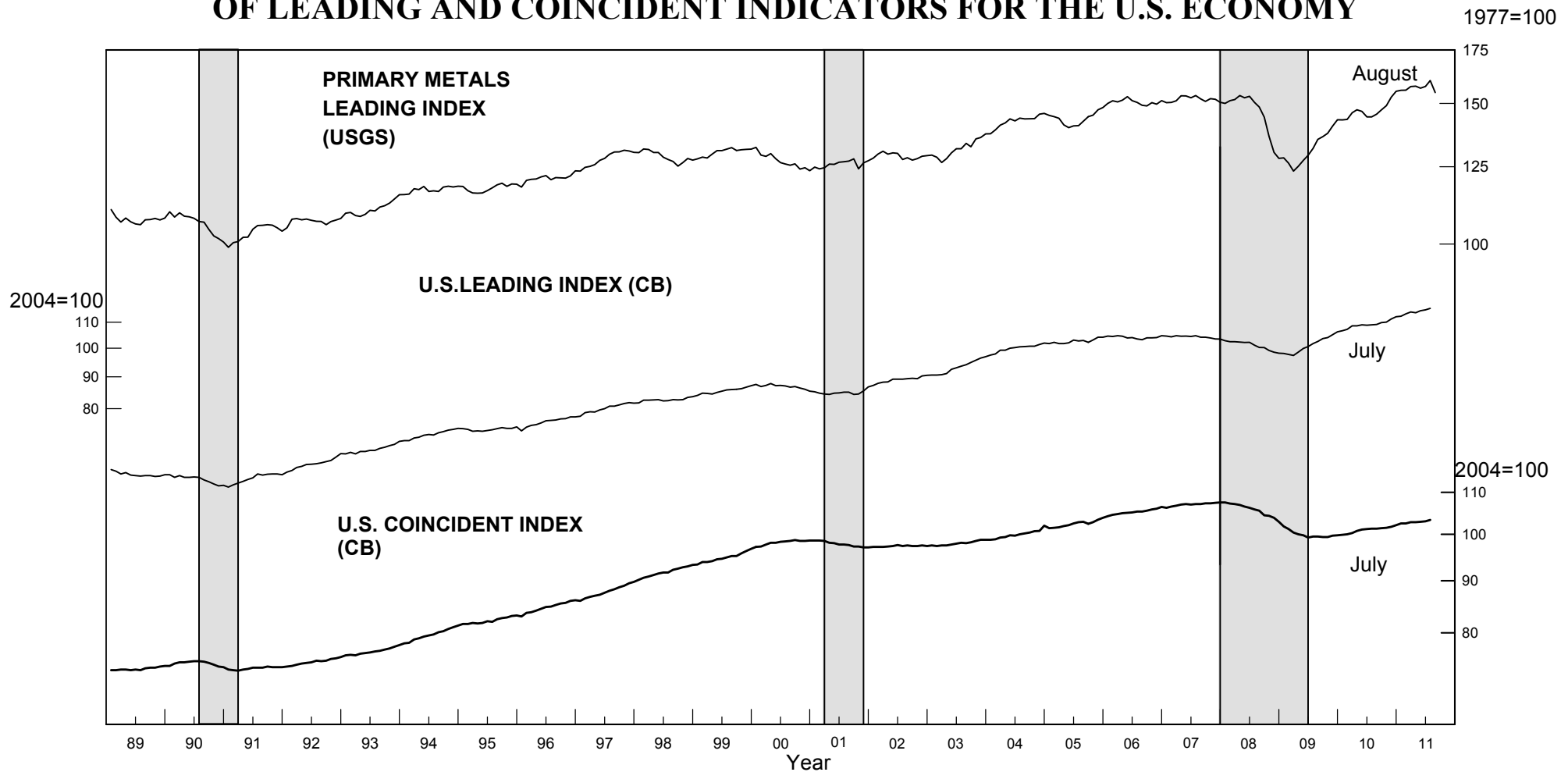


Chart 8.

**PRIMARY METALS LEADING INDEX AND COMPOSITE INDEXES
OF LEADING AND COINCIDENT INDICATORS FOR THE U.S. ECONOMY**



Shaded areas are business cycle recessions.

Sources: U.S. Geological Survey (USGS) and Conference Board (CB).

September 2011